

ABSTRACT

A device is provided. The device includes a base, and a reservoir disposed in the base. The reservoir is defined by a cladding and the base, and has an opening with a largest dimension of about 200 nm or less, more preferably 100 nm or less, and most preferably 60 nm or less. A material may be disposed within the reservoir. The base may be attached to a position control apparatus that may control the position of the base with an accuracy on the order of nanometers. The position control apparatus may include an atomic force microscope and / or a near field scanning optical microscope. The base may also be coupled to an energy application apparatus that may apply energy to the material. The device may be used to deposit material onto a substrate with a very high resolution, on the order of a few molecules across. The device may also be used to remove material from a substrate with a very high resolution by transmitting energy through the base. A device used for such removal may or may not include a reservoir.